

HISTORIC AMERICAN ENGINEERING RECORD

HAER
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Notre Dame Bridge
Spanning the Merrimack River on Bridge Street
Manchester
Hillsborough County
New Hampshire

HAER No. NH-14

NOTE: Photographs were taken by photographers Ernest Gould, Hooksett, NH, for Closs Planners, Inc., April 1988; and by Bruce Alexander, Chester, NH, for the New Hampshire Department of Transportation, December 1988

- NH-14-1 VIEW OF SOUTH ELEVATION OF NOTRE DAME BRIDGE, SHOWING CAUSEWAY, STEEL ARCH, AND EASTBOUND LANE OF NEW BRIDGE UNDER CONSTRUCTION, PARALLELING CAUSEWAY, LOOKING NORTHWEST
- NH-14-2 3/4 VIEW OF STEEL ARCH, LOOKING SOUTHWEST FROM NORTHEAST CORNER
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- NH-14-9 VIEW OF CAUSEWAY, SHOWING SOUTH ELEVATION OF RIGID FRAME FORMER RAILROAD SPAN, NOW CROSSING CANAL STREET, LOOKING NORTH. ARCHED RIB SPAN AT LEFT NOW BRIDGES THE B&M LINE
- NH-14-10 VIEW OF CAUSEWAY, NORTH ELEVATION, EAST SIDE, SHOWING ARCHED RIB REINFORCED CONCRETE SPANS NEAREST THE MERRIMACK RIVER, LOOKING EAST

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- NH-14-11 VIEW OF CAUSEWAY, SHOWING SOUTH ELEVATION OF ARCHED RIB REINFORCED CONCRETE SPAN OVER COMMERCIAL STREET; DETAILS OF ARCHED RIBS, PIERS, AND FLOOR BEAMS, LOOKING NORTHEAST. NEWBRIDGE DECK IS AT UPPER RIGHT OF VIEW
- NH-14-12 VIEW OF CAUSEWAY, NORTH ELEVATION, SHOWING DETAIL OF STAIRWAY BETWEEN CANAL STREET/GOMMERCIAL STREET, PROVIDING AGCESS TO CAUSEWAY DECK, LOOKING SOUTHWEST. RAILING DETAILS ARE WROUGHT IRON
- NH-14-13 VIEW OF CAUSEWAY, LOOKING EAST, PROFILING DETAILS OF RIGID FRAME SPAN OVER CANAL STREET, AND SHOWING STEEL RIBS AND FLOOR BEAMS ENGASED IN CONCRETE
- NH-14-14 VIEW OF CAUSEWAY (EAST END, NORTHEAST CORNER), SHOWING DETAIL OF REINFORCED CONCRETE RAILING, PIER/LAMP BASE, AND TYPICAL PEDESTRIAN BENCH FLANKING EAST APPROACH, LOOKING NORTHEAST
- NH-14-15 VIEW OF STEEL ARCH, WEST PORTAL, LOOKING EAST
- NH-14-16 VIEW OF STEEL ARGH, SHOWING DETAIL OF WEST PORTAL AND LOCATION OF MANUFACTURER'S PLAQUE, LOOKING NORTHEAST
- NH-14-17 VIEW OF STEEL ARCH, SHOWING DETAILS OF TYPICAL PIN HANGER GONNECTION, SOUTH CHORD, WEST END, LOOKING NORTHWEST. ALSO REVEALED ARE RIVETED LAGING BARS AND PLATES OF UPPER AND LOWER ARGH CHORDS; AND CHANNEL WITH FISH PLATES RIVETED ON INSIDE FOR REINFORCEMENT/BUILDING UP GROSS-SECTION OF WEB
- NH-14-18 VIEW OF STEEL ARGH, SHOWING DETAILS OF BRIDGE DECK (IRVING DECK), LATERAL BRACING, HANGERS AND STEEL ARCH RIBS OF NORTH CHORD, LOOKING NORTHWEST
- NH-14-19 VIEW OF STEEL ARCH, SHOWING DETAIL OF GROWN ARCH, LATERAL BRACING, HANGER PIN CONNECTIONS, LOOKING NORTHEAST
- NH-14-20 VIEW OF STEEL ARGH, SHOWING UNDERSIDE OF BRIDGE DECK AT EAST END, TYPICAL FLOOR BEAM DETAILS AND IRVING DECKING, X-BRACING AND PENETRATION OF ARCH LOWER CHORD THROUGH DEGK, LOOKING NORTHWEST. GAS LINE IS CARRIED ON FLOOR BEAM OUTRIGGERS. NEW BRIDGE IS AT LEFT
- NH-14-21 VIEW OF STEEL ARCH, SHOWING NORTH ELEVATION OF END PANELS OF ARCH, ARGH WEB, AND FLOOR BEAM DETAILS AT EAST END, LOOKING SOUTHWEST. ALSO SHOWING ORIGINAL RAILING DETAIL
- NH-14-22 VIEW OF STEEL ARCH, SHOWING ABUTMENT INTERIOR, DETAIL OF ARCH BEARINGS WITH HINGED SEATS AND LATERAL BRACING OF ARCHES, LOOKING NORTH

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- NH-14-23 VIEW OF STEEL ARCH, SHOWING DETAIL OF TYPICAL HINGED BEARING SEAT (SOUTH ARCH) AT EAST END, ANCHORED IN CONCRETE ABUTMENT, LOOKING EAST. HINGE PIN IS TURNED TO 6" (8" ON INSIDE) AND SECURED WITH A 10" HEXAGONAL NUT
- NH-14-24 VIEW OF STEEL ARCH, SHOWING DETAIL OF ONLY SURVIVING MANUFACTURER'S PLAQUE (ONE OF FOUR), "AMERICAN BRIDGE COMPANY U.S.A. 1937" AT WEST PORTAL/SOUTH CHORD

The following are photocopies of photographs, courtesy of the Manchester Historic Association, Manchester, New Hampshire:

- NH-14-25 VIEW OF MCGREGOR BRIDGE (1881-1936), CROSSING THE MERRIMACK RIVER AT BRIDGE STREET, LOOKING SOUTHEAST. NORTH ELEVATION OF DOUBLE-DECKED, THREE-SPAN DOUGLAS PATENT PARABOLIC IRON TRUSS ERECTED BY CORRUGATED METAL COMPANY (BERLIN IRON BRIDGE COMPANY, BERLIN, CT) From "Bridge Street Bridge", photographer and date unknown.
- NH-14-26 VIEW SHOWING SOUTH ELEVATION, LOOKING NORTHEAST
From newspaper clipping, "Notre Dame Bridge, Manchester, New Hampshire", Manchester Union Leader, c. 1938, photographer unknown.
- NH-14-27 VIEW SHOWING SOUTH ELEVATION OF NOTRE DAM BRIDGE, LOOKING NORTHEAST
Ernest Gould, photographer, 1987

The following are photocopies of original drawings for Contract No. 1, Proposed New McGregor Bridge, by J. R. Worcester & Company, Engineers, Boston, MA, September 1936. (Original Contract 1 drawings on file with City of Manchester Highway Department, Plan Archives):

- NH-14-28 GENERAL PLAN. Sheet 1 of 3
- NH-14-29 EXISTING STRUCTURES. Sheet 2 of 3
- NH-14-30 PIER DETAILS. Sheet 3 of 3

The following are photocopies of original drawings for Contract No. 2, Proposed New McGregor Bridge, by J. R. Worcester & Company, Engineers, Boston, MA, October 1936. (Original Contract 2 drawings on file with New Hampshire Department of Transportation, Bridge Design Division Plan Archives, Concord, NH):

- NH-14-31 U.S. WORKS PROGRAM GRADE CROSSING PROJECT, (TITLE PAGE)
W.P.G.M. NO-301, WEST BRIDGE STREET. Sheet 1 of 10
- NH-14-32 TYPICAL SECTION OF IMPROVEMENT. Sheet 2 of 10
- NH-14-33 SUMMARY OF QUANTITIES. Sheet 2A of 10

NH-14-34 GENERAL PLAN. Sheet 3 of 10
NH-14-35 EXISTING STRUCTURES. SHEET 4 OF 10
NH-14-36 GENERAL LAYOUT. Sheet 5 of 10
NH-14-37 PIER DETAILS. Sheet 6 of 10
NH-14-38 DETAILS OF 64' 3" SPANS. Sheet 7 of 10
NH-14-39 DETAILS OF 90' 0" SPANS. Sheet 8 of 10
NH-14-40 PLANS AND DETAILS OF R.R. SPAN. Sheet 9 of 10
NH-14-41 DETAILS OF EAST ABUTMENT. Sheet 10 of 10

The following is a photocopy of an original drawing [apparently for Contract No. 2]. McGregor Bridge Railroad Span, Manchester, NH., by The Boston Works, Inc., Boston, MA, 2/12/37, revised 3/13/37. (Original drawing on file with the New Hampshire Department of Transportation, Bridge Design Division Plan Archives, Concord, NH):

NH-14-42 ERECTION PLAN - BLAST PLS. ETC.

The following are photocopies of original drawings for Contract No. 3, Proposed New McGregor Bridge, by J. R. Worcester & Company, Engineers, Boston, MA, October 1936. (Original Contract 3 drawings on file with City of Manchester Highway Department, Plan Archives.):

NH-14-43 GENERAL PLAN. Sheet 1 of 9
NH-14-44 EXISTING STRUCTURES. Sheet 2 of 9
NH-14-45 EXISTING STRUCTURES. Sheet 3 of 9
NH-14-46 GENERAL LAYOUT. Sheet 4 of 9
NH-14-47 GENERAL LAYOUT. Shwet 5 of 9
NH-14-48 PIER DETAILS. Sheet 6 of 9
NH-14-49 DETAILS OF 64' 3" SPANS. Sheet 7 of 9
NH-14-50 DETAILS OF 90' 0" SPANS. Sheet 8 of 9
NH-14-51 PYLON DETAILS FOR PIERS 10 & 12. Sheet 9 of 9.

The following are photocopies of original drawings for Contract No. 4, Proposed New McGregor Bridge, by J. R. Worcester & Company, Engineers, Boston, MA, October 1936. (Original Contract 4 drawings on file with City of Manchester Highway Department, Plan Archives.):

NH-14-53	EXISTING STRUCTURES. Sheet 2 of 6
NH-14-54	EXISTING STRUCTURES. Sheet 3 of 6
NH-14-55	GENERAL LAYOUT OF STEEL RIVER SPAN. Sheet 4 of 6
NH-14-56	TYPICAL DETAILS. Sheet 5 of 6
NH-14-57	TYPICAL DETAILS. Sheet 6 of 6